

Claims

1. A method for providing a supplementary call service in a telecommunication network, comprising the steps of:

- 5 a) monitoring on a signaling path between end terminals (5, 12) a negotiation signaling of respective call parties;
- b) storing a connection information detected in said monitoring step;
- 10 c) using said detected connection information to generate a signaling towards at least one of said end terminals (5, 12) to establish said supplementary call service, when said supplementary call service is invoked by one of said call parties.

- 15 2. A method according to claim 1, wherein said supplementary call service is applied to a data call.

3. A method according to claim 2, wherein said data call is a video or a multimedia call.

- 20 4. A method according to claim 1, wherein said supplementary call service is a call hold supplementary service.

- 25 5. A method according to claim 4, wherein said connection information defines a protocol used between said call parties.

6. A method according to claim 4, wherein said signaling for establishing said call hold supplementary service comprises sending empty or fill frames or supervisory data link layer frames according to said connection information to one of said call parties in order to keep a connection protocol alive.

35

7. A method according to claim 4, further comprising resynchronization attempts towards one of said call parties and stopping a related timer in order to prevent a call failure.

5

8. A method according to claim 4, wherein said signaling for establishing said call hold supplementary service comprises sending a video information or an audio information to one of said call parties.

10

9. A method according to claim 8, wherein said video information comprises a still or moving video information.

10. A method according to claim 4, wherein said negotiation signaling is monitored by a mobile terminal (11) connected to one (12) of said end terminals.

15

11. A method according to claim 1, wherein said supplementary call service is a call transfer supplementary service.

20

12. A method according to claim 11, wherein said connection information defines a transcoding parameter.

25

13. A method according to claim 12, wherein said transcoding parameter defines a type of audio and/or video codec.

30

14. A method according to claim 11, wherein said signaling for establishing said call transfer supplementary service comprises a fallback signaling for converting a connection to one of said call parties into a speech mode.

35

15. A method according to claim 14, wherein said fallback signaling is performed towards both call parties, if said

connection information indicates that two data calls cannot be adapted.

16. A method according to claim 11, wherein said signaling
5 for establishing said call transfer supplementary service comprises transmitting a codec parameter derived from said connection information to a network element having a transcoding capability, in order to provide a required a transcoding function at said network element.

10

17. A method according to claim 16, wherein said codec parameter is transmitted to said network element, if a fallback signaling to one of said call parties has failed.

15

18. A method according to claim 11, further comprising indicating changes of call characteristics to an upper layer entity, recognizing an application level compatibility of the transferred calls, and performing interworking in said upper layer entity.

20

19. A method according to claim 1, wherein said signaling for establishing said supplementary service is performed by an interworking function provided in said telecommunication network.

25

20. A method according to claim 1, wherein said telecommunication network is a mobile network.

30

21. A method according to claim 1, wherein said connection information is at least partly received through an outband signaling.

22. An apparatus for providing a supplementary call service in a telecommunication network, comprising:

- a) monitoring means (34) for monitoring on a signaling path between end terminals (5, 12) a negotiation signaling of respective call parties;
- b) storing means (35) for storing a connection information detected by said monitoring means (34); and
- 5 c) signaling means (32, 33) for generating a signaling towards at least one of said end terminals (5, 12) to establish said supplementary call service in response to said stored connection information, when said supplementary
- 10 call service is invoked by one of said call parties.

23. An apparatus according to claim 22, wherein said signaling means (32, 33) is adapted to send empty or fill frames or supervisory data link layer frames according to

15 said connection information to one of said call parties, in order to keep a connection protocol alive.

24. An apparatus according to claim 22, wherein said signaling means (32, 33) is adapted to stop re-

20 synchronization attempts towards one of said call parties and to stop a related timer, in order to prevent a call failure.

25. An apparatus according to claim 22, wherein said signaling means (32, 33) is adapted to send a video

25 information and/or an audio information to one of said call parties.

26. An apparatus according to claim 22, wherein said signaling means (32, 33) is adapted to generate a fallback

30 signaling for converting a connection to one of said call parties into a speech mode.

27. An apparatus according to claim 26, wherein said

35 signaling means (32, 33) is adapted to transmit a coded

parameter to a network element (30) having a transcoding capability, in order to provide a required transcoding function at said network element (30).

5 28. An apparatus according to claim 22, wherein said signaling means (32, 33) is adapted to indicate changes of a call characteristic to an upper layer entity.

29. An apparatus according to claim 23, wherein said
10 apparatus is a mobile terminal (11) connected to one (12) of said end terminals.

30. An apparatus according to claim 22, wherein said apparatus is an interworking unit (31).